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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,249	01/16/2002	Horst Greiner	DE 010022	9227

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02/04/2003

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EXAMINER

LEE, Y MY QUACH

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 02/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/050,249

Applicant(s)

Horst Greiner

Examiner

Y Quach Lee

Group Art Unit

2875

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE Three (3) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- ☒ Responsive to communication(s) filed on 1/16/2002
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1 to 12 is/are pending in the application.
- ☐ Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☒ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1 to 6, 10 and 12 is/are rejected.
- ☒ Claim(s) 7 to 9 and 11 is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement

## Application Papers

- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner
- ☒ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☒ All ☐ Some\* ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 6
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other \_\_\_\_\_

Office Action Summary

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### ***DETAILED ACTION***

#### ***Specification***

1. The abstract of the disclosure is objected to because of the term “Fig. 1” after line 10. It should be deleted. Correction is required. See MPEP § 608.01(b).

#### ***Claim Objections***

2. Claims 1 to 12 are objected to because of the following formalities: In claims 1 to 11, the language “characterized by” is improper. It is suggested that the language should be changed to --wherein-- to conform to the U.S. standard practice. In claim 1, the term “walls” on lines 5 and 7 is improper in view of the previous term “each” on line 4 of the same claim. It is suggested that this term should be changed to --wall--. In claim 10, the term “walls” on line 2 is improper in view of the following term “cavity” (singular) on line 2 of the same claim. It is suggested that this term should be changed to --wall--. Claim 12 depends on objected claim 1 and as such is also objected. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

3. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 10, the term “a second portion” is not clear in view of the first portion has not been previously established.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 4 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Dupree.

Dupree shows an optical waveguide plate (10) having a light emission surface (figure 2), a plurality of different colored light sources (25, 30, column 4, line 4 and column 6, lines 27 to 28) accommodated in a plurality of substantially cylindrical cavities (R) provided in a lower side of the plate opposite the light emission surface, each of the cavities having a side wall and an

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upper side coated with a sheet of metal layer (34), which is considered to be and readable as a first reflecting layer, while the light coupling with the plate through the side wall, the upper side of the cavity facing the light emission surface and extending substantially parallel to the light emission surface, and the side wall extending substantially perpendicularly to the light emission surface.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dupree in view of Horiuchi.

Dupree discloses the invention substantially as claimed with the exception of having a second reflective layer at the lower sides opposite to the upper sides of the cavities.

Horiuchi teaches a reflective layer (106, 16) disposed at the lower sides opposite to the upper sides of the cavities of the waveguide plate for reflecting backward propagating light into the direction of the light emission surface.

It would have been obvious to one skilled in the art to provide the lower sides of the cavities of Dupree with a reflective layer, as shown by Horiuchi, for reflecting backward propagating light into the direction of the light emission surface to prevent the light from being uselessly emitted to the outside therethrough.

8. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dupree.

Dupree discloses the invention substantially as claimed with the exception of having the colored light sources as colored light emitting diodes that are distributed such that no light sources of the same color lie in mutually adjoining cavities.

It should be noted that to have the colored light sources as colored light emitting diodes would have been an obvious matter of design choice which provides no unusual, unobvious and/or unexpected result and is therefore deemed to fall within a purview of an ordinary engineering design technique to have the light sources as light emitting diodes for the benefit of

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having relatively low power consumption and small size with the ability of emitting light of different colors as well as high light intensity and relatively low heat. It should also be noted that the arrangement of the light sources such that no light sources of the same color lie in adjoining cavities would have been an obvious matter of design choice, since such a modification would have involved a mere change in the arrangement or placement of the light sources. It is generally recognized within the level of ordinary skill in the art to change the location or arrangement of the light sources to suit different applications. The language "A liquid crystal display ..." is considered to be a field in which a claimed apparatus is intended to be employed, it does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. No patentable weight is given thereto.

9. Claims 7 to 9 and 11 would be allowable if rewritten to overcome the objection set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

10. Claim 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, and the objection set forth in this Office action as well as to include all of the limitations of the base claim and any intervening claims.

11. Claims 7 and 8 contain allowable subject matter because the prior art does not teach the second reflecting layer extending over the side faces and the lower side of the optical waveguide plate in combination with the features as claimed in claims 1 and 3. Claims 9 to 11 contain allowable subject matter because the prior art does not teach the first reflecting layer prolonged by a first portion in horizontal direction into the optical waveguide plate in combination with the features as claimed in claim 1, the first reflecting layer prolonged by a second portion along the side walls of the cavity and a first portion in horizontal direction into the plate in combination with the features as claimed in claim 1, the edges of the cavities lying opposite the upper side surrounded by a third reflecting layer in combination with the features as claimed in claim 1.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


13. Roper is cited to show other pertinent light emitting display.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Y Quach Lee whose telephone number is 703-308-1939. The examiner can normally be reached on Tuesday and Thursday from 8:30 am to 4:30 pm.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Y. Q.  
January 23, 2003

  
Y Quach Lee  
Patent Examiner  
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